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AN

INAUGURAL DISSERTATION

Cushor

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ON

MERCURY,

SUBMITTED TO THE CONSIDERATION

OF

THE HONOURABLE ROBERT SMITH, PROVOST,

AND OF THE

REGENTS OF THE UNIVERSITY OF MARYLAND,

BY

MARTIN FENWICK,

OF UPPER LOUISIANA

MEMBER OF THE BALTIMORE MEDICAL SOCIETY.

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TO

JOHN B. DAVIDGE, A. M. M. D.

PROFESSOR OF

The Institutes of Physick in the University of Maryland.

SIR,

The solicitude, you have manifested for my welfare, and the kindness and benevolence which have uniformly characterised your deportment towards me, since I have had the honour and happiness of being known to you, have left an impression on my mind, which the lapse of time can never efface. In proclaiming thus publickly, my acknowledgements to yourself and amiable family, I am not influenced by customs, which prescribed such a form, but actuated by the purest sentiments of affection, duty, and esteem.

Permit me to dedicate the ensuing pages to you, as a feeble, but respectful and sincere testimony of the profound gratitude with which you have inspired me.

THE AUTHOR.

TO

JAMES COCKE, M. D.

PROFESSOR OF

Anatomy in the University of Maryland,

THE ENSUING PAGES ARE INSCRIBED,

As a feeble, But sincere tribute

OF

Gratitude and Respect,

BY HIS OBLIGED FRIEND,

THE AUTHOR.

INTRODUCTION.

The ensuing pages will be dedicated to the consideration of Mercury. I cannot expect to add any thing of consequence to the volumes which have been devoted to it. Few medicines have excited a greater interest; none are of more importance.

My object is to exhibit in a condensed form its most prominent features; together with its employment in those diseases, wherein its efficacy, is, or was supposed to be, most conspicuous. I shall endeavour to introduce nothing without authority; many things will be omitted which might very properly be mentioned: but I shall endeavour to mention nothing which ought to be omitted, or which cannot be supported by respectable authority. If the attempt had been spontaneous, it would warrant the expectation that something novel, ingenious, plausible or useful would reward the trouble of its perusal. It is not the result of the will, but the effect of necessity. It is not compiled with a view to repu-

tation, or usefulness, but in compliance with an express, and indispensable regulation of the university. This plea is trite; but it is nevertheless just, and will continue to be made so long as it continues to exist.

If a sufficient time had been afforded, it might, perhaps, have been rendered less objectionable. The subject is exhaustless; but unfortunately the attention of a student is not so much directed to a single subject as to the acquisition of general information. The preparation for an examination is immediately and *vitally* important: the imperfections of a thesis may be overlooked, but a lame examination will necessarily and inevitably preclude the acquisition of that professional distinction to which the candidate aspires.

I am firmly persuaded that some of the preparations of mercury, may be administered with more freedom than has heretofore been believed: Calomel is one of these. Several cases are recorded of its auspicious operation, wherein a much larger dose was given by mistake than was intended. Dr. Stewart, in his Inaugural Dissertation upon mercury, mentions, that a nurse gave to one of his patients in yellow fever, a drachm of Calomel, instead of rubbing that quantity into

his gums, as she had been enjoined. It speedily subdued the vomiting which had previously resisted every effort, and in other respects exerted an operation so salutary that his patient began from that moment to convalesce, and was in a short time completely recovered.

About to leave an Institution, in which my studies have been prosecuted with great pleasure, I cannot omit this opportunity of tendering my sincere acknowledgments to the professors of medicine in the University of Maryland, for the uniform kindness and benevolence which they have exhibited towards me.

THE [illegible] OF [illegible]

CHAPTER I

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ON MERCURY.

WE have reason to believe that Hippocrates was unacquainted with Mercury.

It appears that Aristotle and Theophrastus possessed some slight knowledge of it. Dioscorides, Pliny, and Galen mention it; the latter classes it among the poisons.

The Arabians were, perhaps, the first who employed it in medicine. They used it in the form of lotions and ointments. Avicenna the Arabian, ventured upon the employment of it internally.

Sydenham frequently prescribed it, but in such a way as was calculated rather to diminish than increase its reputation.

Quicksilver is fluid at ordinary temperatures, and is the most volatile of all metallic mineral substances. It congeals at 40° below 0 of Fahrenheit's scale. It evaporates at about 600° , and is oxydated at the same temperature. Its specific gravity is 13.568, a cubic foot weighing about 848lb. Its lustre is equal to polished silver. It is generally found combined with sulphur, or some other metallic substance. The principal mines are at Almaden, in Spain; Idria, in Hungary; in the Dutchy of Deux Ponts; in Friuli, in Italy; and in South America. It is found in small quantities in France and Britain. Virgin, or fluid Mercury, is often interspersed through other metals. It is readily obtained pure by distillation.

Crude Mercury has very little or no action upon the system, unless it meets with an acid in the stomach; when

oxydated it becomes a medicine of great power. It has been employed in colick, in the iliac passion, and as an anthelminthick with but little advantage. It is now discarded from practice.

At one time, it was fashionable among people of the first rank in England, to take it every morning; the practice was soon discontinued. An immense number of the preparations of this mineral have been employed in medical practice; few in comparison have been retained. I shall notice the most conspicuous when I come to treat of those diseases in which they have been used advantageously, or in which I conceive they ought to be employed.

There is scarcely a disease to which the human race is subject, that has not been combatted by some of the preparations of this mineral. In *Lues Venerea*, it is the only cure upon which a proper reliance can be placed; among modern practitioners it is the only one resorted to for the removal of the primary stages of this prevalent though loathsome malady.

Its *modus operandi*, in the cure of this disease is very obscure, and has given rise to various hypotheses, in the maintenance of which, their authors and advocates have evinced considerable warmth. They are now generally exploded.

In my opinion there are but two which have any pretensions to probability, viz: the one originally proposed by Mr. John Hunter, and that embraced by Mr. Benj. Bell.

They are both, no doubt, liable to many objections: but the latter is, I think, the more plausible of the two. Mr. Hunter ascribes its efficacy to its general and permanent stimulant operation, whereby an action is induced and

perpetuated, incompatible with the existence of the venereal irritation, till at length the virus is changed, or eliminated from the body by the usual evacuations.

Mr. Benjamin Bell, who opposed this opinion of Mr. Hunter with great zeal and considerable ability, endeavoured to show that *Mercury* produced its beneficial effects in the venereal disease by neutralizing the virus.

To substantiate this theory, it is obvious that he must prove, in the first place, that the ointment which is frequently, and very properly directed for the cure of the disease, is absorbed by the lymphatics; for unless the antidote be brought into contact with the poison, it is evident that no good can result. From a number of experiments which have been, apparently, very carefully made, and impartially detailed, we are, I think, justified in believing that Mercurial ointment is taken up of cutaneous absorption.

In ordinary cases, when the infection is recent, it is usually sufficient to keep up a slight tenderness of the gums a week or two after the chaneres are cicatrized. To accomplish this effect, it is at present customary to direct the blue pill to be taken two or three times a day. Some prefer calomel exhibited to the extent of two or three grains a day, combined with half the quantity of opium, to prevent its running off by the bowels. Either of these modes answers the purpose, in most cases, very completely. Whichever is adopted, it is best to persist in the use of the remedy for six, eight, or ten days after every vestige of the complaint is removed, lest a relapse should ensue; for unless it be completely eradicated, it will infallibly reappear in a different but less manageable form, in a very few weeks. During the progress of the cure, it is necessary to keep the chaneres perfectly clean: a solution of Castile

soap in warm water, does very well. In some cases it becomes necessary to apply escharotics; extreme circumcision is necessary to avoid using them prematurely or unnecessarily; I am satisfied that bubo is frequently occasioned by a neglect of this caution.

In some cases, perhaps where the disease is complicated, with a serophulous taint, we find it impossible to remove it by the ordinary remedies. Under such circumstances, the *conciom maculat* is found to be exceedingly useful. While the Mercurial irritation continues, it is sometimes necessary to use tonics with great freedom. In the secondary stage of the disease, corrosive sublimate is, no doubt, preferable to calomel, or the blue pill.

The *Phosph. Hydrargyri* has recently been much eulogised by several who have employed it. Its operation is very violent. It appears to me to be a medicine of very questionable efficacy. The fumes arising from sulphuret of Mercury when heated, have been recommended perhaps with some propriety, in some cases of venereal sore throat. It has been frequently found useful in fumigating ulcers depending upon syphilis. It excites a ptyalism almost immediately.

A sore mouth is a very troublesome and distressing affection. It is, no doubt, frequently induced unnecessarily. To shorten its duration, or diminish its violence, becomes therefore, an object of the greatest importance. Various plans have been alternately recommended, adopted and rejected,

At one time sulphur was supposed to possess sovereign virtues. It no doubt is useful; but I never could perceive any thing specific in its operation. All the advantages that do accrue from its employment, might, in my opinion, be assigned with much more propriety to its laxative property.

Dr. Barton relies with great confidence upon opium, to appease the Mercurial irritation. He advises a grain or two to be taken occasionally, and the mouth to be frequently gargled with laudanum diluted to a proper weakness, or a watery solution of opium.

The practice most in vogue at present is, to exhibit a brisk cathartic, and apply a blister to the throat; this, together with the occasional use of astringent gargles and laudanum at bed time, is in general, sufficient for the removal of the complaint.

Dr. Brown of this city, was induced to use Mercury in pleurisy from analogy, having previously experienced the most beneficial effects from it in other inflammatory diseases. He directed two grains of calomel combined with the third of a grain of opium every three or four hours.*

In malignant fevers its efficacy stands unrivalled. It would be difficult to say to whom we are indebted for its first employment. Chisholm arrogates to himself the merit of it.

Of late, calomel has superseded the use of all other preparations of Mercury as an internal remedy. In some cases the Ung. Hydrarg. is a valuable auxiliary.

After having evacuated the bowels freely, Dr. Chisholm was wont to combat the boullam fever by small doses of calomel combined with opium, repeated at short intervals. His dose varied generally, from 3 to 8 grains, every two, three, or four hours.

He occasionally directed frictions with the ointment, and sometimes, but rarely, ordered the gums of the patient to be rubbed with calomel. The effects of this treatment was so uniformly beneficial, that he assures us, "in every place where salivation took place, little else was re-

* Vide Cumming De Pleuritide Glasgow: 1793, page 41.

quired than the plentiful use of nourishing, simple food and wine.”*

Other physicians of celebrity in the profession, adopted the same practice about the same period of time. Among them Dr. Rush, of Philadelphia.

The reputation his professional labours had justly acquired him; the ingenuity he showed in defence of the practice; and finally, its success, alike contributed to inspire a confidence in its propriety. At first he was content to rely solely upon its cathartic operation, and in order to produce this effect, he was accustomed to add an equal or superior quantity of jallap.

He conceived it to possess “many advantages over every other purge. It was detergent to the bile and mucus that lined the bowels,” and he thought he had reason to believe, “that it acted in a peculiar manner upon the biliary ducts.”

Such, however, were not the only reasons that induced this observer to prefer purges to any other remedies in the incipient stages of the epidemick, in which he used it. He had frequently observed that disease was prone to invade a weak part, whether such debility arose spontaneously, or was dependant, originally, upon a morbid action.

Hence persons possessing a cephalic, gastric, or hepatic predisposition, are subject to the most severe and dangerous attacks in the head, stomach, or liver, in all acute diseases. Influenced by this law of the animal economy, he was solicitous to induce an artificial weak part in the bowels, whereby the disease might be invited or attracted thither, and thus shield the liver and brain from fatal and dangerous congestions. To accomplish this end, he found it necessary in a number of cases in which the bowels

* See page 171

were obstinately constipated, to prescribe his favorite remedy, upon which he had now bestowed the familiar appellation of "ten and ten;" whereby a ptyalism was induced in a number of his patients, which was productive of an effect so salutary, as induced him in all subsequent cases, to direct particular attention to the means of producing it. Upon his recommendation, the practice became pretty general and was attended with success.

From that time to the present, its reputation, instead of diminishing has continued to increase.

Dr. Davidge has contributed very essentially to the diffusion of the knowledge of the effects which result from the use of this medicine in certain cases. This learned physician remarks that "whenever a free salivation takes place, the patient is safe. Perhaps no person ever died after a free and full establishment of this discharge from the mouth."*

Experience has shown that it may be employed with more freedom than was formerly ever surmised.

Dr. Haynie, of Louisiana, recommends the exhibition of calomel in doses of a tea-spoonfull frequently repeated; and assures us that by the adoption of this practice his success in severe billious diseases, has been unprecedented.

Without venturing to imitate this bold and energetic practice, I can have no doubt that it may be used with much more freedom than has been customary heretofore.

In dysentery, none who have witnessed its unparalleled efficacy, will consent to relinquish its employment. It appears to be a medicine peculiarly and singularly adapted to the management of this disease. By judicious combination it may be made to produce all the effects

* Vide Treatise on the Autumnal, Endemical, Epidemic of Tropical climates—page 53.

that can be desired. Conjoined with tart. antimon. or ipecac. or jalap, it becomes an admirable emetic or cathartic: with opium an excellent anodyne, and with this last and an antimonial, one of the best diaphoretics we possess.

It appears to have a specific action upon the liver. We as naturally resort to calomel for the cure of Hepatitis, as we employ bloodletting in apoplexy, and with the same happy effect.*

In *colica pictorum* it has been frequently employed, since the publication of Mr. Clutterbuck's treatise upon that disease. He extols it very highly, and although he was induced to employ it from a vague and untenable theory, its operation is so uniformly salutary, whether used as a cathartic, diaphoretic or sialogogue, that few who have ventured to employ it in this painful and untractable disorder will consent to discontinue it. Mr. Clutterbuck considered *colica pictorum* as a disease of complete exhaustion, from the sedative operation of lead, and resorts to Mercury as an universal stimulant.

In the paralysis attending or succeeding it, he advises the strong Mercurial ointment to be rubbed freely upon the parts affected. Whether this preparation acts specifically, or operates primarily as a topical stimulant, and subsequently as a sialogogue, in those cases wherein it has been advantageously employed, I shall not undertake to determine. It seems to me by no means improbable, that the latter supposition is correct. The warm bath, opium, blisters, fomentations, &c. have been very properly conjoined with it. Having had an opportunity of witnessing

* Calomel is the most efficacious and powerful of all medicines, in the restoration from inflammations of whatever kind they may be. But in those of the liver its salutary effects are peculiarly deserving our notice. Vide Davidge on Y. Fever—page 50.

several cases of this disease, in persons who have been employed in the manufacture of white lead, which has recently been established here, and having marked the decisive advantages afforded by the liberal use of this medicine, together with the inefficacy of other modes of treatment which have been adopted, I have no hesitation in proclaiming my unqualified acquiescence in the propriety, safety, and expediency of the practice, which he has recommended.

Some physicians, in whose erudition, sagacity and candour I have the highest confidence, have denied the utility of cathartics in colica pictorum. I confess that, in this instance, the reasons they allege in justification of their opinion, do not appear to me to be possessed of that weight and importance which is imputed to them. I should apprehend that so great a difference does not exist between ordinary colic and colica pictorum, as to warrant a treatment so opposite. In both, the seat of the disease is the same; the symptoms are nearly alike; as is also the proximate cause, which consists in a spasmodic constriction of the intestines. These palpable analogies are still further strengthened and confirmed by the success which attends a similar mode of treatment. It might be stated in opposition to these facts, that the latter disease is induced by a peculiar and specific cause; that it is attended by paralysis, and finally, that the constipation is so unyielding, as to resist, in some instances, the most arastie purgatives. The same effect may, and frequently does originate from different, and even opposite causes. Dyspepsia is induced by abstinence as well as by repletion and intemperance; vomiting is produced through the medium of the senses as well as from the internal exhibition and external ap-

plication of irritants. Fire is the same, whether it be derived from the clouds, or produced by percussion.

Colic is very properly characterized by "pain in the belly, especially with a twisting about the naval, vomiting, bound bowels."* What are the symptoms of Colica Pietorum? are they not precisely similar in the first instance? would it be possible for the most sagacious and experienced practitioner to discriminate between them? I should without hesitation, give a decided negative to all these interrogatories. When the disease is further advanced, and the pain extends to the back and arms, or when paralysis ensues, the treatment I admit should be different; but the disease has also changed. It is, in fact, a Palsy, accompanied by pain and constipation of the bowels, but nevertheless demanding as imperatively, a rigid adherence to the employment of general and topical stimuli, as if induced by any other cause.

It has been fashionable to employ mercury largely for the cure of Hydroceph: Intern: Several very cogent objections might be urged against the propriety of the practice.

1st. The disease attacks those persons whose age presents a very formidable obstacle to the production of that effect from which alone, a beneficial result can be expected.

2d. When it does affect the mouth, it frequently occasions very troublesome ulcerations, and sometimes gangrene.

3d. There are other remedies of equal or superior efficacy, which are not liable to produce any of these disastrous consequences.

These facts are, in my opinion, sufficient to deter us from its employment in any stage of the disease, except as a cathartic.

* Vide Davidge's Nosology, p. 56.

Consumption of the lungs is perhaps, more fatal in northern and temperate latitudes, than any other disease to which we are incident. A number of years ago it was customary to combat it by means of mercury; the practice is still continued, but the success which attends it, is exceedingly limited.*

Before we can treat it with success, it is necessary to have precise and accurate ideas of its nature; if by consumption of the lungs, we mean that disease which is occasioned by tubercle, and characterised by cough, purulent expectoration, Heetic fever &c. it would be obviously improper to employ mercury for its cure. But if we extend the definition, and admit it to consist in a chronic inflammation of the lungs accompanied by cough, &c. it will, perhaps, authorise a different practice,

In the latter species of what has been conceived to be the same disease, Mercury may be combined with blood-letting, low diet, blisters, issues, &c. if timously and judiciously employed. Its operation may be analagous to issues, &c. by inducing a new and less dangerous action.

But where the disease depends upon serophula, it will unquestionably accelerate a fatal termination. If practicable, it would be exceedingly useful, in many cases, to discriminate between different species of the same disease.

It is questioned whether this knowledge is at present attainable: if so, it would, in my opinion be advisable to omit the employment of Mercury altogether in phthisis pulmonalis.

It has frequently been employed in hydrophobia, but like all other remedies, hitherto without success. Theory would expect much from it, and perhaps we might suc-

* Vide Marton and Dessault the physicians.

ceed were it possible to excite a ptyalism, after the accession of hydrophobic symptoms. The celerity with which the disease terminates fatally, has heretofore rendered this impracticable.

Much was anticipated from its prophylactic virtues in hydrophobia. Experience has not, however, justified the sanguine expectations which were formed of it. Here the same objection presents itself. If the disease supervened at regular and stated intervals after the infliction of the bite, we might so manage the medicine as to induce a salivation simultaneously. The time, however, varies greatly; it has appeared in six weeks, and sometimes not until several years have elapsed.

It appears to me, that if the mercurial irritation could be excited at the time the disease makes its first appearance, the most beneficial effects might be expected. Dr. Barton, I believe, originally suggested this hint, and in corroboration of it adduced the practice of the physicians in the West Indies, who find it necessary to induce a ptyalism, previously to the performance of amputation, having been taught by experience, that unless they adopted this precaution tetanus supervened, and speedily destroyed the lives of their patients.

In the preceding paragraphs I have considered hydrophobia as proceeding from the bite of a rabid animal. As a symptom of a fever, it will, no doubt, give way to the influence of Mercury.

It has been customary to treat *Tetanus* in the same manner. The propriety of the practice may very well be questioned. I have no doubt that the free use of bark, wine, laudanum, the cold bath, &c. is much better calculated to destroy the spastic rigidity of the muscles, which constitutes this disease, than any other practice which has been hitherto recommended.

As an emmenagogue it is deserving of much notice. Dr. Potter has frequently employed it with the happiest effects.

Its operation in the removal of this complaint is rather obscure. We have no reason to believe that it acts specifically upon the *uterus*. Perhaps its efficacy may be ascribed to its universal and permanent stimulant operation, whereby the morbid action, which was previously concentrated, is more generally diffused.

It is very properly employed in *Croup*. It is necessary, in this disease, to exhibit the doses sufficiently large to act upon the stomach as well as upon the bowels.

It is no uncommon practice to direct 5 grs. of calomel every two hours, until some sensible effect is produced.

When used immoderately it is very apt to give rise to a disease which was completely misunderstood until within a few years. We are indebted to Mr. Matthias for this important information. Its symptoms are so analogous to the secondary stage of syphilis, that even this acute and experienced observer acknowledges his inability to discriminate with certainty between them. He has termed it *the mercurial disease*. Mr. Matthias disclaims all pretensions to its discovery. On the contrary, with a frankness that does him the highest honour, he acknowledges that Hunter and some others had vague and indistinct notions of its existence, a number of years ago.

For the cure of this disease, Mr Matthias directs V. S. and topical blood-letting, by means of leeches, to remove local or general irritation. When this is accomplished, he places his chief dependance upon *conium maculatum*, change of air, and warm bathing. In some cases of great debility he recommends tonics, exercise, the cold bath, &c.

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